

REMARKS

Claim 1 has been amended to specify that the electro-optic display comprises an electrode (this does not, of course, exclude the presence of additional electrodes) arranged to apply an electric field to the layer of electro-optic material, a heat generating component disposed on the opposed side of the electrode from the layer of electro-optic material, and a heat shield disposed between the heat generating component and the electrode. These amendments are based upon, *inter alia*, Figure 1 and the related description at Paragraphs 39-41 of the description, which state that the layer (102) of electro-optic material is sandwiched between two set of electrodes, which are omitted from Figure 1. Figure 1 further shows heat generating components (112), which are necessarily disposed on the opposed side of one set of electrodes from the layer (102) of electro-optic material, with the heat shield (106, 108) disposed between the heat generating components (112) and this set of electrodes. Claims 2-10 are unchanged. Claim 11 has been amended in a manner exactly parallel to claim 1. The non-elected claims 12-20 (see below) have been cancelled.

Claims 21-26 have been added to give applicants the full scope of the protection to which they consider themselves entitled. Claim 21 is directed to electro-optic display according to claim 11 in which an air gap is present between the electrode and the layer of thermally conducting material. Basis for this claim is found, *inter alia*, in Figure 1 and the related description at Paragraphs 39-41 of the description, which describe the air gap 110. Claims 22-25 parallel claims 7-10 but depend from claim 11 rather than claim 1. Finally, claim 26 parallels claim 21 but depends from claim 1.

No new matter is introduced by any of the foregoing amendments.

In response to the election requirement set out in Paragraphs 1-7 of the aforementioned Office Action, applicants hereby confirm their earlier election of Group I, claims 1-11. However, this election is now made without traverse, and accordingly the non-elected claims 12-20 have been cancelled without prejudice to applicants' right to file divisional and/or continuation applications directed to the subject matter of these claims.

The cancellation of claims 12-20 requires a change of inventorship, and an appropriate Petition is filed herewith.

Claim 11 stands rejected under 35 USC 102(b) as anticipated by Albert et al., U.S. Patent No. 6,118,426. This rejection is traversed. More specifically, this rejection is traversed on the grounds that Albert does not describe an electro-optic display comprising a layer of electro-optic material, an electrode, a heat generating component disposed on the opposed side of the electrode from the layer of electro-optic material; and a layer of thermally conducting material disposed between the heat generating component and the electrode, as required by claim 11 as now amended.

Applicants agree with the statements in the Office Action that Albert describes, in Figure 8E, an electro-optic display comprising a layer of electro-optic material 832 and heat generating components 834, 836. However, Albert does not disclose a layer of thermally conducting material disposed between the heat generating component and the electrode, as required by claim 11. The copper pads 838 in Albert are the electrodes of the backplane, as is readily apparent from their position adjacent the electro-optic material 832, separated therefrom only by adhesive 836. There is no thermally conductive layer present between the copper pads 836 and the heat generating components 834, 836, as required by claim 11.

Claims 1-4 and 7-10 stand rejected under 35 USC 103(a) as unpatentable over Albert in view of Cheriff et al., U.S. Patent No. 5,008,656. This rejection is traversed. More specifically, this rejection is traversed on the grounds that (a) Albert does not disclose a layer of thermally conducting material disposed between a heat generating component and an electrode, as discussed above; (b) neither Albert nor Cheriff shows any awareness of the problems caused by uneven heating of electro-optic material; (c) Cheriff's multi-layer structure is not intended to, nor is it described as, a heat shield; and (d) a person skilled in the relevant art (the technology of electro-optic displays) would not combine the multi-layer structure of Cheriff with the Albert display.

With regard to point (a), it is again noted that Albert does not disclose a layer of thermally conducting material disposed between a heat generating component and an electrode, so that there is in Albert no layer of thermal conducting material to be replaced by the Cheriff multi-layer structure. Furthermore, as to point (b), Albert nowhere discusses any potential effect of heat from heat generating electronic components on his electro-optic material, and in the absence of both a thermal conducting layer and any indication in Albert of the problem which the present invention is designed to solve, there is no incentive for a skilled person to include any type of heat shield in the Albert display.

With regard to point (c), although Cheriff's Figure 4 does refer to multiple insulating and conducting layers, it should be obvious from the context that it is *electrical* conduction and insulation which is being discussed, not thermal. As best seen in Figure 3, Cheriff's structure is a multi-layer flexible cable in which it is obviously necessary to electrically insulate the conductors in the various layers from each other by intervening insulating layers. There is no suggestion in Cheriff that the multi-layer structure of Figure 4 is intended to act as a heat shield and a strong indication that it is not; the one portion of the Cheriff cable which is identified as a heat sink (see column 3, line 3) is the heat sink/backer 14, which is designed to heat sink a chip carried in the leadless chip carrier 12. The heat sink 14 is disposed on the *opposite* side of the multilayer structure of Figure 4 from a chip in the carrier 12. To put it mildly, if the multilayer structure of Cheriff's Figure 4 were actually intended to function as a heat shield, it would hardly be logical to place such a heat shield between a chip and the heat sink for that chip.

With regard to point (d), a person of ordinary skill in the art of electro-optic displays would not be led to combine Albert and Cheriff in the manner suggested by the Examiner. As already noted, neither Albert nor Cheriff discloses a heat shield separate from an electrode, so it can hardly be logical to substitute one non-heat-shield structure for another. The Office Action states that Cheriff and Albert are analogous art because they are directed to a similar problem, namely creating flexible display technology. With respect, there is no indication in Albert that the display of Albert's Figure 8E is intended

to be flexible and every indication that it is not; an electro-optic display supported on piers above a thick substrate 831 is hardly likely to be flexible. Furthermore, the Cheriff structure is intended to act as a flexible connector between a drive electronics module 54 and display element 56 (see Figure 7 and column 3, lines 20-23 of Cheriff). There is no suggestion that either the electronic module 54 or the display element 56 is flexible and the manner in which they are drawn strongly suggests that they are conventional rigid modules. Thus, neither Albert nor Cheriff is concerned with providing flexibility in the display itself.

The Office Action further states that that it would have been obvious to the skilled person to replace the circuit board 837 of Albert with the heat-shielded multi-layered circuit board of Cheriff because the motive to do so would have been to thermally insulate the display from the circuit components and thus improve the quality of the display. Applicants again note that neither Albert nor Cheriff gives any indication that heat from heat-generating components is a problem in an electro-optic display. With respect, it can hardly be logical to combine the disclosures of two references to overcome a problem of which neither reference is aware.

The 35 USC 103(a) rejection of claims 5 and 6 as unpatentable over Albert in view of Cheriff and Leibowitz, U.S. Patent No. 4,812,792 is traversed for the same reasons as the earlier 35 USC 103(a) rejection discussed above.

For all the foregoing reasons, the 35 USC 102 and 103 rejections in the Office Action are unjustified and should be withdrawn.

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Serial No. 10/604,630
Amendment of March 29, 2006
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This application now only contains 17 claims, including 2 independent claims, and since applicants have paid the base filing fee covering 20 claims, including 3 independent claims, no additional claim fees are required by this Amendment. However, since the prescribed period for responding to the Office Action expired February 1, a Petition for a two month extension of this period is filed herewith. The fees for this Petition, and the Petition to Correct Inventorship are being paid via the RAM system concurrently with the filing of this Amendment.

Respectfully submitted
/Shipley/
David J. Cole
Registration No. 29629

E INK Corporation
733 Concord Avenue
Cambridge MA 02138

Telephone (617) 499-6069
Fax (617) 499-6200
E-mail dcole@eink.com